

Latvian construction company SIA SINERGO is engaged in constructing Passive houses in Latvia, Sweden and Denmark.

Since 2015, Sinergo company started cooperation with HYBRO Technologies company. The use of HYBRID heating panels helps to minimize heating costs. The combination of HYBRID panels with photovoltaic made heating of the houses completely free.

The company builds houses of different size, from 25 m<sup>2</sup> to 180m<sup>2</sup> of living area. The SINERGO houses are designed according to the passive house standards with the thermal energy consumption for heating of up to 15 kWh/m<sup>2</sup> per year. All houses use Passive House Planning Package (PHPP) energy balance calculations.

The most popular size of houses are 120 m<sup>2</sup>. The PHPP value of such houses are as follows:

- Annual heating demand–15 kWh/m<sup>2</sup> per year;
- Air tightness (n50) – 0.4 h<sup>-1</sup>;
- Heating load–18.5W/m<sup>2</sup>;
- Primary energy requirement (incl. solar energy gains) – 9.38 kWh/m<sup>2</sup> per year.

The heating demand of 120m<sup>2</sup> house is 1800 kWh/m<sup>2</sup> per year.

Sinergo homes heating is provided by the latest generation of HYBRID ceramic infrared panels. The heating elements are aesthetically pleasing and consume only 375 W.

To keep the house of 120m<sup>2</sup> in warmth, it is needed 6 HYBRID 375 heating panels, which means that one HYBRID ceramic heating panel is calculated to 20m<sup>2</sup> of an area.

The characteristic of a HYBRID heating system, used in a house:

- Quantity – 6 pcs.;
- HYBRID panel power – 0.375 kWh;
- Hybrid heating system peak power – 2.25 kWh;
- Work time – 4.4 hours/day.

These numbers show that it is possible to heat up houses and other object of different size using even low-powered heating system. One should just take to a consideration the location and insulation of an object.



Ingars Liedags  
SINERGO / DOMINO HOMES  
CEO & Founder

[www.sinergomajas.lv](http://www.sinergomajas.lv)

[www.dominohomes.eu](http://www.dominohomes.eu)